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ALLIUM SPECULAE, A NEW SPECIES OF THE ALLIUM CANADENSE ALLIANCE FROM ALABAMA[1]

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The *Allium canadense* alliance comprising ten North American species has recently been revised by the authors.[2] Scarcely was this monograph off the press than there appeared in our living collection an undoubted eleventh member of this group. We are indebted to Dr. Carroll E. Wood, Jr., for supplying bulbs and later herbarium specimens of this novelty which we describe below.

Allium speculae, sp. nov. Bulbus ovoideus non bulbuliferens saepe unus ex pugno, tunicis interioribus albidis, cellulis cuticulae indistinctis recte elongatis regularibus, tunicis exterioribus fuscis persistentibus anguste fibroso-recticulatis, maculis vacuis; foliis aliquot canaliculatis in sectione transversa concavo-convexis 1–2 mm. latis integris scapo brevioribus in flore viridibus; scapo uno tereti 2–3 dm. alto; spatha membranacea caudata, bracteis plerumque tribus lanceolatis attenuatis plusminusve connatis plerumque uninervatis; umbella pauci (10–15–) flora erecta, pedicellis tenuibus demum subaequilongis, perianthio plerumque 2–3–plo longioribus; perianthii segmentis 5–6 mm. longis ellipticis obtusis ad apicem involutis pallide roseis late patentibus non valde reflexis in fructu marcescentibus super ovarium conniventibus; staminibus perianthii segmentis paulo brevioribus ascendentibus, filamentis subulatis basi dilatatis coalitisque, antheris oblongis obtusis versatilibus; ovario turbinato trilobato 6-caniculato distincte cristato, cristae processis

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[2] Ownby, M., and H. C. Aase. 1956. Cytotaxonomic Studies in *Allium*. I. The *Allium canadense* alliance. Research Studies of the State College of Washington. Monographic Supplement, No. 1. 106 pp.

6 binis complanatis horizontalibus, stylo lineari filamentis subaequilongo, stigmate capitato; seminibus ignotis; $2n = 14$.

Bulb ovoid, without basal bulbets, often one of a cluster, inner coats whitish, with the epidermal cells indistinct, vertically elongate and regular or nearly so, outer coats persisting as a series of grayish or brownish very fine meshed open recticula, usually enclosing only a single bulb; leaves several per bulb, channeled, concave-convex in cross section, 1–2 mm. broad, entire, shorter than the scape, green at anthesis; scape 2–3 dm. tall, terete, solitary (or sometimes a second one appearing in cultivated plants); spathe membranaceous, caudate, breaking at anthesis into usually 3, lanceolate, attenuate, partially united, mostly 1-nerved bracts; umbel comparatively few (10–15) — flowered, erect, pedicels slender, becoming subequal in length, mostly 2–3 times that of the perianth; perianth segments 5–6 mm. long, elliptic, obtuse, involute at apex, pinkish, widely spreading, but not strongly reflexed, remaining thin and withering over the ovary; stamens a little shorter than the perianth, ascending, filaments subulate, dilated and united into a ring at the base, anthers oblong, obtuse, versatile; ovary turbinate, 3-lobed, but 6-grooved, each lobe with a pair of flattened horizontal processes which together form the distinct crest; style linear, about as long as the filaments, stigma capitate; seeds unknown; $2n = 14$.

The type specimen (WS) was collected in bud April 25, 1955, in black sandy soil (wet at this season) with *Schoenolirion croceum* on an open expanse of flat sandstone surrounded by *Pinus-Quercus-Carya* woods at the northwest rim of Little River Canyon, about 1.3 miles from the northeast end of Little River Canyon Parkway, Lookout Mountain, southeast of Fort Payne, De Kalb County, Alabama, by Carroll E. Wood, Jr. (No. 8695). The plants were allowed to flower, and specimens prepared May 4. A selected isotype is in the Gray Herbarium. Additional data were obtained from plants of this collection (WS) grown in the greenhouse at Pullman, Washington, in 1956. The species is abundant at the type locality, and several isotypes obtained remain to be distributed by the collector. In cultivation, the plants did not survive beyond the first year.

Allium speculae habitally resembles the widespread *A. canadense* var. *mobilense* of the Gulf states, and if it has been collected before the specimens will probably be found under this name or one of its synonyms. It differs from var. *mobilense,* however, in its prominently crested ovaries, its mostly 1-nerved bracts,

and its more widely spreading perianth segments. Its nearest relationship is probably not with that variety and, if this is true, it has no close relatives. The only other species of this alliance with crested ovaries in eastern North America is *A. Cuthbertii*, which is at once so conspicuously distinct from *A. speculae* that they could not be confused. *A. Cuthbertii* has only two leaves per scape, the processes of the conspicuous crest are contorted, the perianth segments reflexed, and the bracts mostly 5-nerved. Yet, *A. Cuthbertii* seems to be the closest relative of *A. speculae*. Among the western species of this alliance, only *A. Geyeri* seems to be a possible relative. This species, however, has urceolate-campanulate flowers, and the procesess of the crest are little more than inconspicuous knobs. The relationship with *A. Geyeri* cannot be close. It seems, therefore, that *A. speculae* represents an eleventh distinct evolutionary line in the *A. canadense* alliance, or that it stands ancestral to *A. Cuthbertii*. The later hypothesis is particularly appealing. Morphologically, *A. speculae* is intermediate between *A. Cuthbertii* and the less specialized western species, such as *A. Geyeri*. Furthermore, its present distribution fits this hypothesis, inasmuch as it is apparent that the *A. canadense* alliance as a whole radiated from the Southwest. One cannot overlook, however, some resemblance between *A. Cuthbertii* and *A. Plummerae* and the possibility that the latter, although tetraploid, might be the most primative surviving member of the alliance. This might imply an early separation of the lines which gave rise to *A. speculae* and *A. Cuthbertii*, respectively, so that the former could not stand as ancestral to the latter.

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AN ALTERNATIVE EXPLANATION OF SUBSPECIATION IN ASCLEPIAS TUBEROSA

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Asclepias tuberosa L. (Woodson, 1954) is represented in the southeastern United States by a relatively extensive Appalachian subspecies and a somewhat more restricted Coastal Plain repre-